

**Amendments to the Drawings:**

The attached sheets of drawings include changes to Figures 1-6. In Figures 1-6, substrate (1) is illustrated as having a MEMS circuit (11) incorporated therein.

Attachment:

Replacement Sheets

**REMARKS**

By this amendment, claims 3 and 4 are amended. Support for the change to claim 3 can be found, *inter alia*, at page 2, line 12-17 and page 7, lines 20-26 of the specification. Support for the changes to claim 4 can be found, *inter alia*, at page 3, lines 23-24 of the specification and in claim 4 as originally presented. Claims 1, 2 and 9-12 were canceled previously, and claims 5-8 stand withdrawn from consideration. Claims 3 and 4 are presented for further examination.

As an initial matter, Figures 1-6 have been amended to illustrate the disclosed embodiment wherein the substrate 1 contains a MEMS circuit 11 previously formed within the substrate (see, e.g., page 7, line 18-page 8, line 36 of the specification). In view of the changes to Figures 1-6, reconsideration and withdrawal of the objection to the drawings are respectfully requested.

Further, the objection to the specification is believed overcome by the foregoing amendment to the disclosure. Specifically, Applicants have clarified that the substrate 1 may include a MEMS circuit 11 previously formed therein.

The objection to claim 4, and the rejection of claim 4 under 35 U.S.C. § 112, second paragraph, are believed overcome by the current changes to claim 4. Specifically, claim 4 has been amended to explicitly recite that the acronym "MEMS" corresponds to a "Micro-Electro-Mechanical System." Claim 4 has also been amended to recite that the MEMS circuit is previously formed within the substrate, and thus is not the product of the claimed method. Reconsideration

and withdrawal of the objection and the indefiniteness rejection are respectfully requested.

The rejection of claim 3 under 35 U.S.C. § 102(b) over Yoneyama, US 4,463,330 is respectfully traversed with respect to the amended claim.

Claim 3 relates to a method for fabricating a nonradiative dielectric waveguide. As amended, the method requires a step of forming a first conductive film on a semiconductor substrate. The method also requires the steps of etching a second dielectric film to form a transmission line and embedding a first dielectric film in an area where the second dielectric film has been etched away.

In order to establish anticipation under 35 U.S.C. § 102(b), all elements of the claim must be found in a single reference. *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 231 USPQ 81, 90 (Fed. Cir. 1986), *cert. denied*, 107 S. Ct. 1606 (1987). In particular, as pointed out by the court in *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 220 USPQ 303, 313 (Fed. Cir. 1981), *cert. denied*, 469 U.S. 851 (1984), “anticipation requires that each and every element of the claimed invention be disclosed in a prior art reference.” In the present case, Yoneyama does not disclose or suggest either the step of forming a first conductive film on a semiconductor substrate or the step of etching a second dielectric film to form a transmission line.

The Office Action improperly relies on inherency to remedy the deficiencies of Yoneyama. As clearly pointed out in the MPEP, however, "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990). In the present case, the Office Action has failed to provide objective evidence or cogent technical reasoning to support the conclusions of inherency. Moreover, the disclosure of Yoneyama lacks sufficient evidence to support a *prima facie* case of anticipation based on inherency.

Yoneyama discloses a dielectric waveguide that consists of two flat conductive plates 1,2 having a dielectric strip inserted into a dielectric medium between the two plates. However, Yoneyama is silent as to the required semiconductor substrate, as well as to the required step of forming a conductive film on such a substrate.

There is nothing in the disclosure of Yoneyama to support the conclusion that a first conductive film is necessarily formed on a substrate, much less that the substrate is a semiconductor substrate. The Office Action merely asserts a conclusion of inherency and fails to provide the required basis or reasoning for such a conclusion.

Second, the Office Action incorrectly concludes that Yoneyama necessarily teaches that a second dielectric film is etched to form a transmission line.

Applicants note that Yoneyama merely teaches that a dielectric strip 6 is inserted into a dielectric medium 5 between the two plates. Applicants submit that the teaching to insert a dielectric strip would not lead one with ordinary skill to conclude that the dielectric strip must be etched to form a transmission line. Pointedly, Yoneyama is silent as to any etching step.

As clearly set forth in the MPEP, the fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. Rather, "to establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient'" (citations omitted, see MPEP § 2112, IV).

Because the Office Action has not provided any basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of Yonemana, the anticipation rejection based on Yonemana is improper and should be withdrawn.

The rejection of claim 3 under 35 U.S.C. § 102(e) over Sasaki, US 6,640,429 is respectfully traversed.

Claim 3 relates to a method for fabricating a nonradiative dielectric waveguide. As noted above, claim 3 requires the step of (i) forming a first

conductive film on a semiconductor substrate. Further, after the additional steps of (ii) forming a second dielectric film on the first conductive film, (iii) etching the second dielectric film to form a transmission line, (iv) embedding a first dielectric film in an area where the second dielectric film has been etched away, and (v) forming a second conductive film on the first and second dielectric films, claim 3 expressly requires that a completed nonradiative dielectric waveguide is formed.

Sasaki discloses a multilayer circuit board having a ferroelectric-based capacitor incorporated therein (abstract). In the circuit board of Sasaki, a first conductive layer is formed on a support body 21 (see, e.g., column 4, lines 18-31). Sasaki does not disclose or suggest, however, that the support body is a semiconductor substrate, as required by claim 3. Rather, Sasaki teaches only that the support body is made of a material such as aluminum (see, e.g., column 4, lines 18-24 and column 5, lines 17-23). Because Sasaki fails to teach or suggest forming a nonradiative waveguide on a semiconductor substrate, reconsideration and withdrawal of the rejection are respectfully requested.

The rejection of claim 4 under 35 U.S.C. § 103(a) over Sasaki in view of Smith, US 6,611,237 is respectfully traversed.

Claim 4 depends from claim 3 and is patentable over the cited references for at least the reasons that claim 3 is patentable. Smith, which was cited for teaching a MEMS circuit fabricated into a substrate, fails to remedy the deficiencies of Sasaki with respect to independent claim 3. Reconsideration and withdrawal of the rejection are respectfully requested.

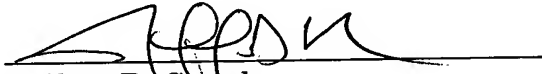
In view of the foregoing, the application is respectfully submitted to be in condition for allowance, and prompt favorable action thereon is earnestly solicited.

If there are any questions regarding this amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response, and please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket #101249.55938US).

Respectfully submitted,

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